



24001177

QP CODE: 24001177

Reg No :

Name :

B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS, MARCH 2024

Sixth Semester

B.Sc Bioinformatics Model III

**CHOICE BASED CORE COURSE - BI6CBT01 - ALGORITHMS DATA STRUCTURE
AND COMPILERS**

2017 Admission Onwards

F06F3BB0

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. What are the steps involved in the study of Data Structures?
2. What is theta notation?
3. What is a randomizer?
4. List out any *four* applications of stack.
5. What is postfix expression?
6. What is Sorting?
7. Define principle of optimality.
8. What is optimal solution?
9. Define breadth first search.
10. What do you mean by code optimization?
11. What is a token?
12. How an interpreter differs from a compiler?

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*





13. What are the basic operations performed on a data structure?
14. Draw a flow chart to find the biggest of 3 numbers.
15. Calculate the space complexity:
algorithm add(a,b,c,m,n)
{
 for(i=1;i<=m;i++)
 for(j=1;j<=n;j++)
 c[i,j]=a[i,j]+b[i,j];
}
16. What are the different types of queue?
17. Write an algorithm to perform linear search in an array.
18. Write an algorithm to find the maxmin from a list of numbers(using divide and conquer method).
19. Write a short note on heap.
20. Differentiate compiler and interpreter.
21. Write an algorithm to perform traversal on linkedlists.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. Explain Complexity of an algorithm with example.
23. Write an algorithm to perform linear search. Apply the algorithm in the given list of numbers.

37 45 12 84 23 85 48 66 10 97
Item=88
24. Explain the Prim's algorithm.
25. Explain the All Pairs shortest path algorithm.

(2×15=30)

